U.S. DEPARTMENT OF COMMERCE
National Technical Information Service

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WATER QUALITY STRATEGY PAPER

A STATEMENT OF POLICY FOR IMPLEMENTING THE REQUIREMENTS OF THE FEDERAL WATER POLLUTION CONTROL ACT AS AMENDED AND CERTAIN REQUIREMENTS OF THE 1972 MARINE PROTECTION RESEARCH AND SANCTUARIES ACT

ENVIRONMENTAL PROTECTION AGENCY

AUGUST 1975

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WATER QUALITY STRATEGY PAPER
THIRD EDITION (AUGUST 1975)

ERRATA

The following substantive corrections to the Third Edition of the Water Quality Strategy Paper (August 1975) should be noted:

Preface:

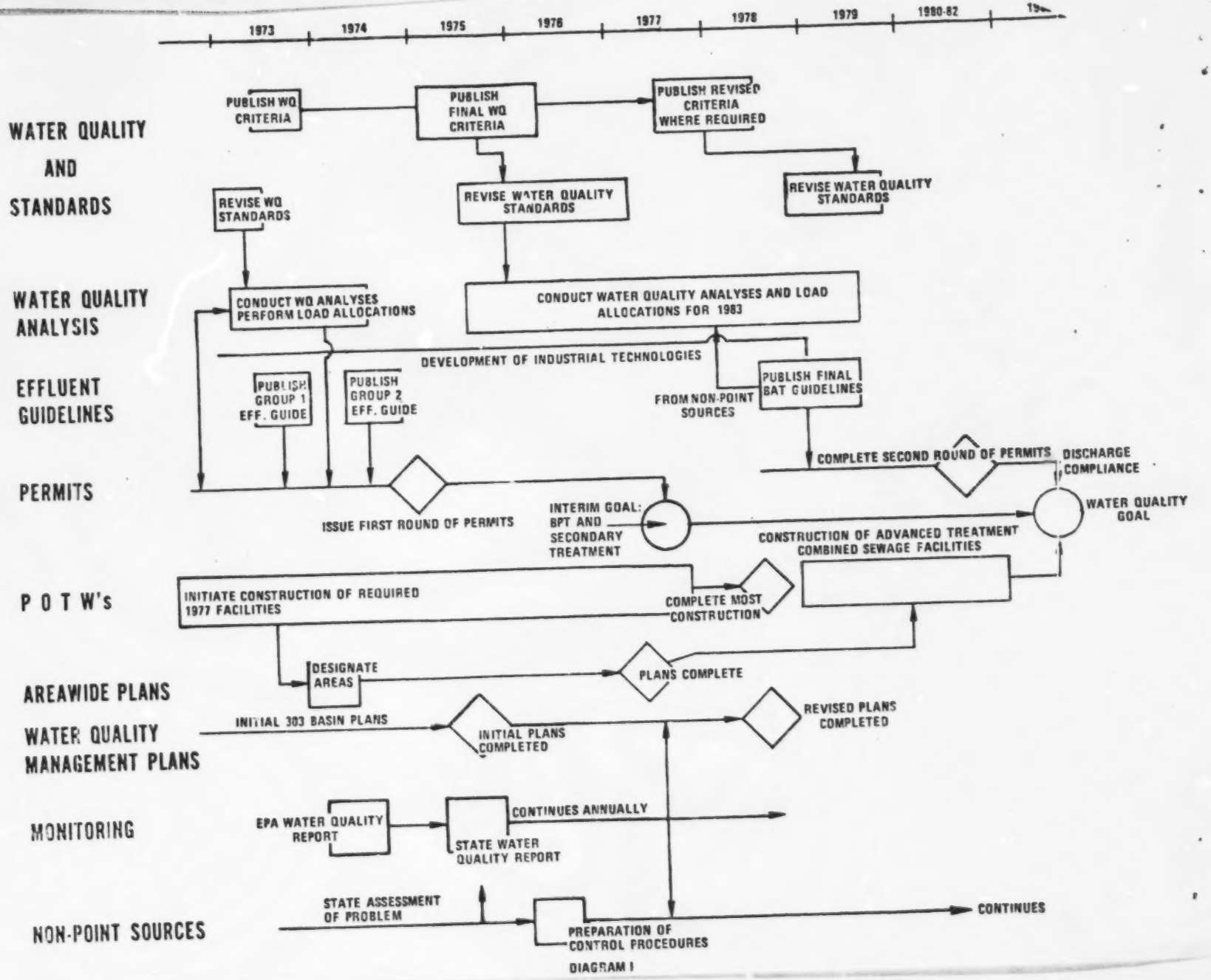
In the last paragraph, the Water Planning Division mail code has been changed to WH-554.

Page 10:

In the Permit, Compliance Monitoring and Enforcement priorities, the first sentence should read: "The permit program will continue to emphasize compliance monitoring and enforcement."

Page 16:

The flow chart referred to in the first sentence was unintentionally omitted. The chart is Diagram 1, attached.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WATER QUALITY AND STANDARDS
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PUBLISH FINAL WQ CRITERIA
PUBLISH REVISED CRITERIA WHERE REQUIRED
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REVISE WATER QUALITY STANDARDS
WATER QUALITY ANALYSIS
CONDUCT WQ ANALYSES PERFORM LOAD ALLOCATIONS
CONDUCT WATER QUALITY ANALYSES AND LOAD ALLOCATIONS FOR 1983
DEVELOPMENT OF INDUSTRIAL TECHNOLOGIES
EFFLUENT GUIDELINES
PUBLISH GROUP 1 EFF. GUIDE
PUBLISH GROUP 2 EFF. GUIDE
FROM NON-POINT SOURCES
PUBLISH FINAL BAT GUIDELINES
PERMITS
COMPLETE SECOND ROUND OF PERMITS
DISCHARGE COMPLIANCE
ISSUE FIRST ROUND OF PERMITS
INTERIM GOAL: BPT AND SECONDARY TREATMENT
WATER QUALITY GOAL
CONSTRUCTION OF ADVANCED TREATMENT COMBINED SEWAGE FACILITIES
P O T W's
INITIATE CONSTRUCTION OF REQUIRED 1977 FACILITIES
COMPLETE MOST CONSTRUCTION
AREAWIDE PLANS
DESIGNATE AREAS
PLANS COMPLETE
WATER QUALITY MANAGEMENT PLANS
INITIAL 303 BASIN PLANS
INITIAL PLANS COMPLETED
REVISED PLANS COMPLETED
MONITORING
EPA WATER QUALITY REPORT
CONTINUES ANNUALLY
STATE WATER QUALITY REPORT
NON-POINT SOURCES
STATE ASSESSMENT OF PROBLEM
PREPARATION OF CONTROL PROCEDURES
CONTINUES

DIAGRAM I

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

AUG 14 1975

OFFICE OF THE
ADMINISTRATOR

TO: All Water Quality Officials

I have continued to stress over the past several years the need to meld successfully the Federal and State water pollution control efforts into a truly joint endeavor.

Progress has been made. We have instituted a joint Federal-State program planning and reporting system. Regional Offices are increasingly interacting with their State counterparts. States are assuming a greater share of the program responsibility. These achievements must be continued and the effort pursued until we achieve a truly mutual partnership.

Our resources are too limited to proceed otherwise. The magnitude of the task ahead demands that work be cohesively meshed and duplication eliminated. The critical nature of several programs requires that they proceed in a priority fashion--and that this priority be supported through the allocation of resources. I expect that both Regional Offices and States will be responsive to these two needs.

The initial two years of effort after the enactment of the Act were directed at accommodating a period of transition during which States and EPA had to adjust existing programs and procedures to address the requirements and initiatives of the new Act. Generally, this period of transition has been completed. We should see the results of this transformation in the achievements of this year and future years.

As an example, we are setting a target of an average monthly obligation of $500 million in our construction grants program over the next 22 months. This rate is far above our historical experience and will only be accomplished by Regions and States pulling together to work in quickly identifying and resolving problems, especially those that impede ongoing program progress.

There is much work to be done in the year ahead. If we are to accomplish our objectives, the dedicated effort of the past several years must be continued. I know that it will be.

Sincerely yours,

Russell E. Train

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

AUG 1 8 1975

THE ADMINISTRATOR

TO: Fellow Participants in the Effort to Clean Our Nation's Waters

The Federal Water Pollution Control Act has generally been conceived as a program to be carried out in two phases. The first phase concludes in July 1977 and the Nation is now half-way there. The past nearly thirty months have seen substantial progress--an achievement made possible by the efforts of many of our citizens, both within and outside of government. This progress was not easily achieved. The hours have been long, the problems many, the issues unceasing; and I commend you all for these efforts.

This third edition of the Water Quality Strategy Paper charts the progress that has been made, but also indicates the extensive challenge that remains if this country is to achieve the basic goals of both the Federal Water Pollution Control Act and the Marine Protection, Research, and Sanctuaries Act.

The Strategy is a dynamic document--it reflects changes in direction, issues that are resolved, and problems that arise. It is not to be viewed as the final word, but as a presentation of our best thinking at this time. As the program has proceeded, views have changed and, hopefully, matured. As an example, we at EPA increasingly recognize that funding resources at both the Federal and State level may dictate the rate of progress.

Perceptions are often the product of dialogue, and I wish that the many thousands of individuals who read and use this Strategy Paper would come back to us with their ideas as to where we may be right or wrong in our approach to the law. Our wisdom is not perfect. We have benefited from the counsel we have received from many diverse parties. This paper incorporates much of that advice and I expect future Strategies to benefit similarly.

This year is probably the most critical to date in our implementation efforts: permits must be secured by an intensive compliance effort; an extensive areawide planning effort will be commencing; and a construction grant award program of great magnitude is being undertaken. The tasks are great but not insurmountable. With your continued dedication and hard work, I am certain they will be accomplished.

Sincerely yours,

John Quarles

John R. Quarles, Jr.
Deputy Administrator

PREFACE

The 1975 edition of the Water Strategy has been prepared for use and review by Federal, State, and local government officials, and for the information of the public. It reflects the final decisions on the Federal Government's FY 1976 budget.

This year, the Overview is being issued as the basic strategy; supplemented program modules which have been developed and are available from the separate program offices. The Overview and program modules are three-holed punched so that revised pages can be distributed and incorporated during the course of the year to maintain currency.

Major substantive changes to the 1974 edition of the Strategy have been made. Also, the discussion has been broadened to include several new areas of program activity.

The principal emphasis of the Strategy is on the implementation of the Federal Water Pollution Control Act, for which EPA has the major Federal responsibility; and the term "the Act" when used in the Strategy means the FWPCA unless otherwise indicated. EPA's role under the Marine Protection, Research, and Sanctuaries Act in regulating ocean dumping is also included. Programs directed to the protection of public water supplies are not addressed, although there is a discussion of areas of the recently enacted Drinking Water Act which are related to the FWPCAA.

Persons using the Strategy are reminded that the Strategy, while based on law, is not the law, nor is it a regulation mandated by the law. It is guidance for use by government agencies in implementing the Acts.

The Strategy Paper is written under the aegis of the Water Planning Division in EPA Headquarters. While much of its development has been within this Division, it also reflects the work of individuals within all EPA Headquarters program areas, and the participation of EPA's Regional Offices, the States, and interested public groups and citizens.

Comments on the strategy are welcomed at any time. They should be addressed to the appropriate program offices and/or:

Water Planning Division (WH-454)
Environmental Protection Agency
Waterside Mall, East Tower, Room 815
401 M Street, S.W.
Washington, D.C. 20460

LIST OF PROGRAM MODULES

The following program modules are available. Requests should be directed to the EPA Assistant Administrator responsible for the subject program.

A. THE BASIS FOR CONTROL. (OWHM)

1. Technology-based Effluent Limitations.
2. Water Quality Standards.
3. Toxic Pollutant Discharge Standards.
4. Thermal Limitations.
5. Modifications to Effluent Limitations.
6. Preservation and Maintenance of Water Quality.

B. PERMITS AND COMPLIANCE. (OE)

1. Compliance Monitoring and Enforcement.
2. Permits.

C. MUNICIPAL CONSTRUCTION. (OWHM)

1. Treatment Plants and Sanitary Sewers.
2. Combined Sewer Overflows and Stormwater Discharges.

D. PROGRAM MANAGEMENT. (OWHM)

1. Planning and Program Management.
2. Water Monitoring.

E. DIFFUSE AND INTERMITTENT SOURCES. (OWHM)

1. Nonpoint Sources Pollution Control Program.
2. Oil and Hazardous Substances.
3. Marine Sanitation.

F. OCEANS, GROUNDWATER & CLEAN LAKES. (OWHM)

1. Ocean Dumping.
2. Ground Water.
3. Clean Lakes.

G. RESEARCH AND DEVELOPMENT. (ORD)

1. Research and Development.

H. ASSOCIATED PROGRAM AREAS. (OWHM)

1. Preparation of Environmental Impact Statements.
2. International Agreements.
3. Intermedia Impacts.
4. Relationship between the Safe Drinking Water Act and the Federal Water Pollution Control Act.
5. EPA and other Federal Agencies.
6. Water Resources.

I. OVERVIEW

Summarized in this part of the Water Strategy are the near-term and the long-range views of EPA on the control of water pollution. Sections A and B chart EPA's goals for Fiscal Year 1976. Sections C and D put these goals in the broader perspective of the next decade. The 1977-1983 sequence of the Act is discussed, and the direction of the program is laid against recent and projected trends in water quality.

The first two sections, in the form of themes and outputs, give verbal and numerical images of EPA's immediate concerns. It will be evident that not all of the themes can be translated into or measured by numbers. Conversely, not all of the output categories represent programs to be given top priority in the next year.

Output values are, in reality, surrogate measures for the desired end result, which is the improvement and maintenance of water quality. Data on ambient conditions should appear increasingly in future versions of the chapter on Water Quality in the Water Strategy, as these data become available.

This overview is supplemented by individual program modules. Modules are being prepared for the following programs:

- The Basis for Control.
- Permits and Compliance.
- Municipal Construction.
- Program Management.
- Diffuse and Intermittant Sources.
- Oceans, Groundwater and Clean Lakes.
- Research and Development.
- Associated Program Areas.

A. PROGRAM FOR FY 1976.

* * * Major Themes for FY 1976 * * *

The following major themes represent the focus for Fiscal Year 1976. These are elements that should be common to every State and Regional Office program effort. They combine retained emphasis of past years, new thrusts, and adjustments to program objectives. The effect of these themes is to establish priorities among program areas, which are summarized at the end of the section. While these are national themes, it is recognized that States and Regions may need to establish additional priorities that address individual areas of local and Regional concern. These efforts are encouraged.

1. Follow-through on Current Accomplishments.

During the past years, resources have been focussed on issuing permits and awarding construction grants. By the close of FY75 some 40,000 permits had been issued and $6.5 billion of grants had been awarded. In FY76, issuance of first round permits should be completed, and further major construction grant commitments will be made to overcome the backlog of necessary treatment works construction.

- NPDES Permit Issuance and Compliance.--In the past, the permit program has emphasized issuance of permits specifying levels of control and phased dates for achievement of progress. This now leads into a compliance monitoring and enforcement program based on those permits. At the same time, reissuance of expiring permits and permits which presently lack self-monitoring or needed pretreatment requirements, and issuance of necessary new permits, will proceed.

While compliance monitoring and enforcement will be this year's major focus, resources needs will be alleviated through the use of self-monitoring and reporting by permittees. Self-monitoring requirements will be related to the source's potential environmental impact or lack of impact.

The extent of non-compliance over the next several years is expected to be appreciable, other than with ocean dumping permits. Much of this non-compliance may be minor and temporary, but substantive violations will surely occur. Appropriate judgment should be used by all parties so that resources will be directed toward achieving substantive industrial and municipal correction of this non-compliance.

An effective compliance program can include many components. Procedures as informal as a telephone call may often be the most effective.

Enforcement actions are an integral aspect of the NPDES program. EPA and the States must conduct a joint effort to develop a realistic, meaningful enforcement strategy. The strategy must include assignment of compliance monitoring and enforcement priorities.

- Construction Grants.--For construction grants, EPA continues to emphasize those municipal projects which form a central core to achievement of both the effluent and water quality requirements of 1977/78. Although obligations are not as high as last year's strategy predicted, onligations in FY 75 wore over $3.6 billion, a large improvement over FY 1974. Increased State participation in the administration of the program should continue to contribute to a more efficient grant award process.

The Supreme Court recently ordered the release of the entire $18 billion authorized in the Act for construction of treatment works. EPA now intends obligating nearly $11.5 billion more in construction grants by the end of FY 1977. This will demand a major acceleration of the grants program. It is important, however, that EPA, the States, and local communities observe the established construction priorities and perform thorough facility planning, to insure these major expenditures will be cost-effective and will contribute toward meeting the water quality goals of the Act.

- Completion of Basin Plans.--Planning is the mechanism for assessing water quality and making water quality management decisions for an entire water body. First round basin plans were to be completed by July 1, 1975, except where the Regional Administrator has allowed a one-year extension. Completion of this round is a key program output.

Over time, existing plans will be expanded through the periodic phase-in of additional elements. In this way, basin plans will be merged with the State's 208 planning requirements to form a single, integrated program, termed "water quality management plans." Revisions to the basin planning regulations (40 CFR 130-131), proposed July 16, 1975, will provide guidance for this effort.

Plan outputs must be available in time to feed into program actions affecting both the 1977 and the 1983 goals of the Act.

2. New Thrusts.

As last year's priority programs take hold, two important new thrusts emerge: Areawide waste treatment management planning and nonpoint source programs.

- Areawide Waste Treatment Management.--During FY76, the initially designated areawide waste treatment management planning agencies (section 208) will produce work plans and begin their planning effort. These plans must provide timely and usable guidance for water quality management decisions. They must analyze existing pollution and the sources thereof to determine the water problem. Specific remedial needs should be identified. Construction grants, permits and nonpoint source controls should key off the relevant plans.

Areawide planning focusses largely on the 1983 goals. However, meaningful interim outputs are also expected. Where appropriate, these should include support of near-term facility planning for municipal waste treatment planning.

- Nonpoint Source Programs.--The second new thrust calls for development of a balanced strategy that includes programs addressing nonpoint sources of pollution. While approaches will vary in different areas, nearly all water areas will need to examine the runoff problem, including storm and combined sewers. Use of non-capital intensive preventative methods will be emphasized.

Control strategies will be developed by designated areawide planning agencies and by States. For both, section 208 provides the principal authorities for addressing nonpoint sources. The State NPS activities will commence in FY76 and will be programmed to support achievement of the 1983 goals.

EPA recommends that NPS controls be based on a "best management practices" concept. Importantly, once control needs and methods have been identified, implementation should be carried out. Regulatory programs pursuant to section 208 should be established where necessary.

3. Preparing for the Years Ahead.

During the first two years after the 1972 Amendments, many programs could not be implemented as fully and as promptly as the Act contemplated.

This situation should not be repeated for the second phase, covering the 1977-1983 period. Effluent guidelines, water quality analyses and waste load allocations should be ready for use in the development of permits addressing the 1983 requirements. Similarly, planning should precede the construction and permitting actions.

The years of 1976 through 1978 are the period of preparation for Phase II. This year especially EPA and the States should carefully examine their informational requirements for 1983 and develop the appropriate action for securing these data in 1977 and 1978.

- Program Decentralization.--EPA will continue to decentralize national water quality management responsibility to States. Regional Offices should give higher priority to integrating their efforts with those of the States, and delegations of specific program areas should be stressed.

  By the end of FY77, EPA hopes that for each of the significant operational areas, other than marine protection (a Federal program), a majority of the States will have assumed the fundamental responsibility for the conduct of the program. This view, of course, is dependent on the States receiving sufficient funding resources, and budget constraints at both the State and the Federal levels may dim this goal.

  Many States have already assumed administration of the NPDES permit system. Further State expansion should be emphasized in the areas of: Construction grant administration, including O&M review; enforcement (especially in those States which have assumed NPDES authority); monitoring; spill prevention and control; and small business loan applications.

  States and areawide agency capabilities and resources to operate effective programs are critical to this objective. The annual development, by States and RA's, of State and Regional strategies and programs can focus the problem and identify EPA's role in supporting the State program. In addressing resource needs, Federal manpower and education block grant programs should be considered. If local institutional capabilities are not adequate for areawide management, the program grants under section 208 should include assistance for development of the needed capabilities.

- Public Participation.--States and local agencies must develop effective mechanisms for workable community involvement. For example, State or local advisory committees may be established for each planning area. These committees should include appropriate local elected officials as well as other individuals and groups. In this way, their views and suggestions can be taken into account in the plan's formulation, before major decisions are cast.

Constructive participation can benefit all parties: It will help assure decisions which reflect the community's concerns, and it will also enhance the public's appreciation of the factors leading to those decisions. An openly developed, responsive water quality management program should enjoy the public acceptance and support which is critical to its success.

- Examining Environmental Results.--It is anticipated that 1976 will see the first major improvements in ambient water quality that will have resulted from actions taken under the 1972 law. As these improvements occur, there will be an increasing need to correlate the efficacy of the abatement steps that were taken with the changes in water quality.

Federal and State water quality monitoring programs are now in operation. Monitoring information, and the analysis thereof, will form the basis for the States' first report to Congress, pursuant to section 305(b) of the Act, due to be submitted by EPA in October 1975. This report will be useful both to the Congress and to the National Commission on Water Quality, which is examining progress towards the Act's 1977 deadlines as a step in its broader examination of the goals and requirements for the next decade. In addition, information on water quality and trends will help States, EPA and the Congress assess impact of current programs and indicate further needs and priorities.

4. A Continuing Attention to Program Problem Areas.

EPA, in conjunction with the States, has intensified its attention to major problem areas that developed during the first two years of implementing the 1972 Amendments. Many remedial measures have been accomplished.

Some of the problems which are still present should respond to administrative solutions. Other problems are more substantive. Remaining programmatic problems include procedures to establish industrial pretreatment; setting the nature of the control program for hazardous materials spills; marine sanitation devices; and toxic substances. Solutions in these areas have yet to be implemented.

Some program areas may require legislative remedy. The agency has submitted two major proposals for Congressional consideration in this regard, and additional matters are being considered. The current proposals are:

- An amendment to section 204(b)(1) to allow a municipality to use an ad valorem tax for its industrial user charge under certain circumstances.

- An amendment to section 307(a) to extend the time within which the Agency must hold public hearings on proposed toxic standards and to allow the statutory compliance period to be extended to up to three years from the date a standard is promulgated.

An amendment has also been submitted to provide that after 1976, the required State water quality reports under section 305(b) would be submitted biennially rather than each year.

Other issues for which legislative changes may be appropriate include a broader amendment to the toxic standards provision and modification to the construction grant program. The latter proposal would be designed to maximize the grant program's funding impact by restricting sewer eligibilities, limiting design periods, reducing the Federal grant share in certain circumstances and altering the grant allocation formula. EPA is reviewing the possible need for a toxics amendment. The construction grants-related issues were explored at public hearings held by EPA over the summer.

In addition, a bill introduced by Representative Cleveland would authorize the Administrator to delegate a major portion of construction grant program responsibility to States and to set aside up to 2% of the State's construction grant allotments for the costs of program administration. EPA has indicated its favor of the Cleveland bill.

That issues are under consideration does not mean that EPA will necessarily conclude that legislation is needed. The Agency conducts an environmental impact review in connection with its legislative proposals and certain proposals introduced by others. These comments help determine the need for and effect of the possible amendments. EPA's work with the National Commission on Water Quality will also add to an appreciation of possible legislative needs.

* * * Priorities for FY 1976 * * *

NOTE: National water quality program priorities are established by EPA's annual Regional Operating Guidance developed according to the Formal Planning and Reporting System. These priorities are highlighted here to provide overall program perspective. For actual priority directives, the Operating Guidance should be consulted.

The following priorities, established among and within program areas for FY 1976, form a general framework in assigning program resources. (See Table I.) Regional and State priorities may differ somewhat to reflect the nature and dimensions of localized individual pollution problems.

The most important element in any water pollution control program is that it be balanced. Resources should not be exhausted on selected program areas, leaving other priority areas without coverage; neither should they be spread so thinly as to negate program effectiveness.

For some EPA program areas and for some States, it is recognized that monies are not at desired levels to carry out effectively all the program efforts and responsibilities under the Act. In other instances, it is taking time to bring additional personnel and resources to bear. Near-term program requirements will not all be achieved by all implementing parties all at the same time. However, the Agency believes that through a proper emphasis on priorities and an effective, decentralized management system, critical program area goals can be achieved within a reasonable period.

EPA is acutely aware that the present recession may have a significant impact on State revenues and the State's ability to fund its programs at desirable levels. Additionally, there has been a sizeable inflationary bite. Under these conditions, State assumption of greater program responsibility may be dependent on additional Federal funds, such as those that might become available under proposed legislation.

1. Priorities Among Program Areas.

The major program priorities for FY 76, which are summarized in Table I, are:

- Construction Grants.--Highest priority in FY 76 is for prompt, cost-effective and environmentally sound use of the massive construction grant sums available under the Act. Effective program management and adequate environmental reviews are important elements in carrying out this objective.

TABLE I

WATER PROGRAM PRIORITIES, FY 76*

I. First Priority National Water Program Areas.

- Municipal Facilities Program Management.
  - Construction Grant awards
  - Facility planning
  - EIS preparation
- Permits, Compliance monitoring and enforcement (Federal facilities carry the same priority as other facilities of the same type).
  - Compliance of major dischargers with permit schedules
  - Compliance of major dischargers with effluent limitations
  - Increase program responsibility assumed by States
  - Resolve adjudicatory hearings and issue, reissue, and modify major, new source and power plant permits
  - New source EIS preparation or negative declarations as required.
  - Achieve compliance with non-NPDES enforcement requirements
  - Ocean disposal permits
- Planning
  - Areawide planning and management

II. Second Priority National Water Program Areas.

- Municipal facilities program management/manpower development
- Oil and Hazardous Spills/response capabilities
- Permits, compliance monitoring and enforcement (Federal facilities carry the same priority as other facilities of the same type).
  - Compliance of minor dischargers (except privately-owned sewage treatment plants).
  - Reissuance of expiring permits for minor dischargers
  - Pretreatment revisions to municipal permits
  - Ocean sites EIS
- Planning
  - Phase I point source and Phase II Statewide nonpoint source outputs through the State continuing planning process

III. Third Priority National Water Program Areas.

- Permits, compliance monitoring and enforcement (Federal facilities carry the same priority as other facilities of the same type).
  - Issue and revise minor permits
  - Compliance of minor privately-owned sewage treatment plants
- Monitoring
  - Ambient monitoring, including NMQSS
  - Quality assurance
  - State implementation of Appendix A program
- Oil and Hazardous Spills/SPCC plans
- SBA Loan Application Review
- Technical Studies and Support (Coastal Zone Management, Marine Sanitation Devices, etc).
- Clean Lakes
- Water Quality Standards Revisions

* Source: Water Regional Guidance FY 76 (EPA, 2-14-75), pp. 3-4.

- Permits, Compliance Monitoring and Enforcement.--The permit and enforcement, with emphasis on major dischargers. Emphasis will also be given to encouraging State NPDES assumptions by States not yet participating and to continued strengthening of existing State NPDES programs.

- Areawide and State Planning.--The third FY 76 priority I program is given to effective areawide planning by agencies designated under section 208.

Oil and hazardous spill response capabilities should receive continuing emphasis. Other programs, although of lower priority, relate to water quality monitoring, the small business loan program, technical studies and support, the clean lakes program and water quality standards.

The divisions of the incentive grant portion of the section 106 State program grants indicate the relative importance assigned to various program areas. Thus, municipal facilities management represents the single most important program area, assigned some 22% of the incentive resources. Compliance monitoring and enforcement and permitting together almost equal the construction grant share, and water quality management planning accounts for the remaining 8% of the incentive resources.

2. Priority Within Areas.

- In construction grants, award and expenditure of cost-effective construction grants, supported by sound environmental review, is the highest program emphasis. Provision and training of qualified operators must also receive a high priority. Increasingly serious attention must be given to establishing effective and self-sufficient State agency manpower planning and training programs. State participation in program administration should be developed.

- Permits, Compliance Monitoring and Enforcement.--The highest priority in this area in FY 76 is to assure a high degree of compliance by major non-municipal dischargers with the NPDES permits. Non-NPDES compliance and enforcement also rates high priority. Assumption by States of NPDES authority in time for second round permits should be given major attention. High priority is also given to the resolution of adjudicatory hearing requests and the issuance, reissuance and modification of major new source, power plant and ocean disposal permits. This includes EIS's or negative declarations as required. Lower priority is assigned to the issuance and reissuance of minor permits and to assuring their compliance.

Enforcement actions against industrial violators of schedules of compliance generally should receive a higher priority in the near-term than actions against discharge conditions. For municipal dischargers, enforcement generally be against the discharge, since construction schedules are largely controlled through construction grants. Compliance monitoring is a component of this activity and receives equal priority.

- Planning.--Development of areawide waste treatment management plans by designated agencies, including completion of initial interim outputs, is the highest priority in planning. This is followed in second priority by completion of the initial phase of basin planning and initiation of State nonpoint source planning in the Phase II water quality management planning process. Preparation for water quality standards review and, if necessary, revisions in keeping with the 1983 goals should commence.

  Timing for the State's activity is, of course, somewhat dependent on State capabilities and resources. However, a recent court decision requires States to act as the section 208 planning agency for non-designated portions of the State in the same manner as designated agencies and to complete those plans by November, 1978.

- Monitoring.--Analysis of major State laboratories is a third priority national objective and an important item in the FY 76 monitoring program effort. It will help assure that the labs can participate effectively in the compliance monitoring and enforcement program. Development of a field laboratory quality assurance program is also emphasized. Water quality analysis through the NWQSS network should be continued and expanded.

- Oil and Hazardous Substances Spill Prevention and Control.--Response effort to oil and hazardous spills should receive higher emphasis than development of contingency plans. The hazardous materials prevention program will not be initiated until FY 77, due to delay in promulgation of key regulations.

3. Regional Priorities.

Uniform application of national priorities may be inappropriate for the Regional Offices and States which have local and geographic problems that require particular attention. Specific areas that have been identified by the Regional Offices as receiving focus in 1976 include:

Region I.

Special regional priorities in Region I are:

- Lake restoration and preservation.

- Control of combined sewer overflows through facility construction grants and permit activities.

- Intensification of Federal/State programs providing technical O&M assistance and guidance to local communities.

- R&D programs on sludge and septage disposal.

Region V.

Region V will emphasize the Great Lakes Initiative Program, undertaken pursuant to the Canada/United States Great Lakes Water Quality Agreement (April 1972). The program includes:

- Upper Lakes Study.

- Pollution from Land Use Study.

- Great Lakes water quality surveillance.

- International Joint Commission support activities.

- Section 108(a) demonstration grants.

- Great Lakes research.

Various ongoing EPA activities further support the goals of the agreement.

Region VIII.

In Region VIII, the Regional Office and States are dedicating particular attention to the preservation of high quality water, recognizing the environmental problems associated with the development of the major energy resource reserves located in the Region.

B. PROGRAM OUTPUTS FOR FY 1976.

This sections describes the major anticipated program outputs. Table II identifies numerical output projections for FY75 and FY76.

Construction Grants.

A total of $18 billion has been made available to the States from FY 1973-75 monies under the Act. Over $6.5 billion of this was obligated by July, 1975. Although this total is below the $7.7 billion projected in last year's strategy, it nevertheless represents an increase in grant activity in FY 75 over FY 74 and reflects an increased number of grant applications meeting prerequisite requirements.

In FY 1976 EPA plans to award about 6,000 construction grants with a value of $5.6 billion. Achieving this goal will require a strong acceleration in the grants program.

A 35% increase in the number of 201 facility plans is forecast from FY 1975 to FY 1976. The number of plans is less than the number of project awards as a plan may cover several separate facilities, and much equivalent planning work has already been done.

Permits, Compliance Monitoring and Enforcement.

In compliance monitoring, all self-monitoring reports-- some 800,000-1,000,000--will be reviewed as to receipt; reports will be reviewed selectively for contents. In addition, one facilities inspection will be conducted at each major discharger during the year, with return visits as necessary. Selected minor dischargers will also be visited. Enforcement actions will be undertaken as needed.

EPA and the States have received approximately 49,000 permit applications. Almost all majors and most minors had received their permits by the beginning of FY76. Emphasis will be on issuing, reissuing and modifying the rest of major, new source, and power plant permits. Remaining municipal, minor discharger, Federal facility, agricultural, vessels, and privately owned treatment facilities permits must also be processed.

Planning and Monitoring.

The States' delineation of basin boundaries increased the number of basins for planning purposes to about 630. A basin plan is being developed for each of the basins through the section 303(e) process. Approximately 40-50% of the plans had reached an intermediate level of management information by the beginning of FY 1976. Nearly

TABLE II
MAJOR PROGRAM OUTPUTS
(Source: Federal Planning and Reporting System)

			FY1975 Actual	FY1976 (12-month Fiscal Year) Projected (Preliminary)
PERMITS				
Compliance inspections, visits and/or samples	Major Minor			Once each; returned as needed. As needed.
Municipal permits issued	Major Minor	(EPA & States) (EPA & States)	2305 11054	1330 3522
Industrial permits issued	Major Minor	(EPA & States) (EPA & States)	1474 11253	1636 -8170
Agricultural permits issued	Major Minor	(EPA & States) (EPA & States)	416 845	
Federal Facilities permits issued	Major Minor	(EPA & States) (EPA & States)	145 1577	
CONSTRUCTION GRANTS				
Number of New Construction Grant Project Awards			2551	4438
Dollar Value of Construction Grant Awards (Millions)			3616	5800
Number of Facility Plan Grant Awards			1639	1819
PLANNING AND MONITORING				
Water Quality Management Plans: Phase I plans completed			45	480
208 Planning Areas designated			135*	75
Number of State Laboratories Evaluated			--	57
Number of State/Regional Quality Assurance Programs Established			5	40

*35 approved; 138 grants (3 from last year).

[ALL OUTPUTS ARE NON-CUMULATIVE]

all plans will be complete with respect to water quality analyses to support the issuance of permits in water quality segments. As of February 28, 1975, waste load allocations had been completed for approximately 1700 water quality segments.

Beginning in FY76, States are expected to initiate nonpoint source planning as a part of the State's water quality management planning.

One hundred forty nine areawide waste treatment management agencies were funded by the end of FY 75, including 11 FY 74 grants and 138 during FY 75. Interim outputs from these agencies are due within nine months after their start-up. The new areawide designations in FY 76 will be dependent on the amount of funds made available and the use of any 208 funds by the State.

In monitoring, most State quality assurance programs should be acceptable by the end of FY 76. There will be no actual increase in the number of monitoring stations from FY 1975, but some relocations and changes in sampling frequency may occur. This should result in a contining enhancement of data recording.

C. SEQUENCE OF IMPLEMENTATION THROUGH 1983

This section relates the various program activities discussed in this paper to the time requirements of the Act. This sequencing is summarized by the flow chart on page 17. The final objective in this sequence is to achieve the Act's 1983 water quality goals.

General phasing.

The Act targets two dates, July 1977 and July 1983, to serve as major mileposts. There must be achieved by each date a national base level of technological control. In addition, by 1983 the Act provides for the attainment of a general level of water quality in the country that will protect aquatic life and allow swimming. In 1977, in contrast, there is no legislatively specified ambient goal, although applicable local water quality standards are still to be met. EPA has determined that, generally, these local water quality standards should provide for recreation on the water and protection of aquatic life.

The period 1973-1977 is generally referred to as Phase I of the Act's implementation, and 1978-1983 as Phase II. The distinctions between Phase I and II are sometimes blurred, especially in programs which are not geared to the periodicity set essentially by the issuance of permits. These others include large areas of research, enforcement, and the response to unique or accidental spills.

- Phase I emphasizes the issuance of permits and the award of a large portion of needed construction grants. These two programs will be a major factor in efforts to achieve the 1983 goals: For some sources, achieving the 1977 requirements will be all that is necessary for 1983. Most of the pollution problems being addressed in this phase are well identified and, compared to many of the problems which will remain, readily correctable. Much of the Phase I effort proceeds from the work of the State and the Federal Government in past years.

- Phase II will be a period when solutions become more subtle and the alternatives for abatement more conflicting. It will demand a better understanding of the cause-effect and cost-benefit relationships between objectives and results. This will be the period for implementing most of the plans for controlling nonpoint sources and the more difficult point sources of pollution. A solid start toward addressing these problems will already begin, however, during Phase I.

The Act also contains the goal of no discharge of pollutants for 1985. This goal cannot be implemented under the authority of the existing Act. Furthermore, EPA foresees that universal achievement of "no discharge" by 1985 may not be either feasible or environmentally desirable. Indeed, for the 1983 ambient water quality goal as well, the present interpretation of the legislative caveat "where attainable" recognizes that naturally induced background conditions could result in a failure to meet the 1983 goal in some waters. However it is not intended that ongoing point source pollution, whether individual or aggregate, be the prevailing reason for its non-achievement.

Water Quality Analysis and Setting of Standards.

During Phase I, State water quality analysis and planning has concentrated on classifying segments as to water quality, analyzing the problems and targeting solutions. Attention has focussed on the "water quality limited" segments--those in which compliance with the Act's technology-based effluent limitations guidelines and standards is not sufficient to achieve water quality standards.

For such segments, States determine the total maximum daily load of pollutants which may be added to the segment without violating standards. Target effluent reductions for individual dischargers, including Federal facilities, are derived from the total loads: These targets may form the basis for permits in both Phase I and Phase II.

In preparation for the Phase II program, States will redefine segments to include the land area relating to each stretch of water. Classifications will also be reviewed in order to reflect the 1983 water quality goals and the impact of second phase technology-based requirements. The reclassifications will take into account nonpoint source impacts.

This information will lead into water quality standards revisions during FY 1976-1977. Revised standards should be directed to the 1983 water quality goal. Waters which will be excepted from meeting this goal will be identified in this effort. EPA will promulgate revised water quality criteria for use in the water quality standards revisions.

Phase II waste loads in water quality limited segments will be developed on the basis of the revised standards. They will address the specific parameters which are violated.

The load analyses may lead to target limitations for permits and/or identification of nonpoint source control needs. Conversely, they may show that use of 1983 technological limitations and basic nonpoint source controls should be sufficient. In the latter case, the segment will be reclassified, and base level technological limits will be employed in writing permits.

Permits, Compliance Monitoring and Enforcement

Permits have been issued as rapidly as possible during Phase I to set compliance with the 1977 requirements. By law, no permit term exceeds five years. Upon expiration, a second round of permit issuances will occur to set compliance with the 1983 requirements.

For industrial point sources, the first round of permits is based on effluent guidelines and regulations describing best practicable technology for many major industry categories, or on the basis of water quality analyses in water quality limited segments. Additional water quality data and more complete and advanced guidelines and regulations will be available for the second phase of permit issuance.

Compliance monitoring and enforcement will become a major focus of the permit program during Phase II, to assure that the permits' potential for water quality improvement will be realized.

Municipal Facilities.

In the municipal field, a massive program of Federal financial assistance is provided to communities to help meet the terms of permits.

During Phase I, grant awards must be both expeditious and effective. Awards will continue to be concentrated on historically eligible projects, such as treatment plants, rather than newer eligibilities such as collection sewers. To achieve immediate water quality improvement, permits for existing facilities will emphasize operations and maintenance steps that can be achieved with minimal capital investment.

During the 1975-1977 period, communities and States should introduce within the State priority list facility plans relating to combined sewer flows. Abatement of pollution from combined and storm sewers is likely to be necessary in some areas to meet the 1983 water quality requirements.

As most municipal plants achieve the minimum technological standards that are required, some facilities, because of growth or water quality requirements, must employ higher levels of treatment. They will undertake increasingly important studies to achieve a cost-effective solution to their problems. They will select between major alternatives, including: (1) the type of treatment: recycling, land disposal, or surface water disposal; (2) the increase in capacity versus correction of infiltration/inflow; and (3) the sources to be treated--whether combined sewer overflows or higher plant efficiency.

The Federal funding program will continue to be oriented towards the correction of existing problems, and not towards a perpetuating level of assistance. It is expected that with the completion of that construction necessary to meet the 1983 water quality requirements, State and local governments will move to an era of financial self-sufficiency.

Facility planning is an integral step to the construction of municipal treatment facilities. Their completion will be emphasized during the next several years so that construction of treatment works can proceed expeditiously. Over time, these plans will be incorporated into and in some respects, supplanted by, planning which will take place at the areawide level. However, areawide planning is not intended as a substitute for all the elements of a facility plan, and facility plans will remain a precondition to the award of a Step 2 or 3 grant.

Water Quality Management Planning.

In Phase I States have developed and begun to implement a coordinated program of State water quality management. Components of the program are: The State strategy, which covers a multi-year period; the annual State program, which identifies specific program outputs each year, and State water quality management planning, conducted in each of the major hydrologic units of the State.

In Phase II, program management will expand its attention to nonpoint source pollution control needs. Areawide planning authorities under section 208 will be the principal vehicle for this program. Current planning, which concentrates on point source control needs, will be updated on a continuing basis in order to retain its relevance for water quality management decisions.

The areawide waste treatment management planning effort, conducted by designated agencies pursuant to section 208, was initiated in 1974. The bulk of initial designations was completed by July 1975, although a number of initial designations remain as funds are presently exhausted. These agencies will develop comprehensive plans covering both point and nonpoint sources. They should be completed within two years.

The primary importance of areawide agencies will be realized when plans are carried out during Phase II. However, their work should include interim outputs necessary to support facility planning within Phase I.

The State, as a part of its program management system, will assure that areawide planning will be conducted throughout the State. In areas which are not designated pursuant to section 208, the State's water quality management plans and individual facility plans will provide programs in accordance with the needs of the area.

Toxic Pollutants.

During Phase II increased attention will have to be paid to toxic pollutants in order to meet the 1983 water quality goal. Phase I has concentrated on controlling traditional water pollutants, such as biochemical oxygen demand and suspended solids. The more exotic pollutants, such as the refractory organics and the heavy metals, remain a great challenge. A coordinated effort of research into toxic pollutant control technologies, health and ecosystem effects, and fates in the environment must be coupled with existing knowledge to produce an effective regulatory program for the control of toxic pollutants if the 1983 goal is to be achieved.

Nonpoint Sources.

As the abatement of point sources is achieved, the scope and nature of nonpoint source pollution will become increasingly obvious. During Phase II, NPS control will become a major program emphasis. Preparation for this will occur in Phase I, during FY75-76. EPA will expand its information and guidance on nonpoint source control methods and techniques, and with the States undertake cooperative pilot projects. Guidelines have been issued for the establishment of the appropriate areawide planning processes and management capabilities, under section 208, and State nonpoint source programs will be included in the State water quality management planning regulations and guidelines. States and areawide agencies are expected to develop NPS control strategies in 1976-77.

D. CURRENT WATER QUALITY AND THE WATER STRATEGY.

EPA's strategy for water pollution control is based upon certain assumptions concerning the present quality of waters in the United States, the causes of pollution where it exists, and the trends and progress that can be made in pollution abatement. This section presents a selection of data on inland surface water and notes the relationship of the national program to the problems that are identified.

Water quality inventory.--On August 8, 1974, EPA sent to Congress the results of the Agency's first National Water Quality Inventory, as required by section 305(a).

Briefly, the results of the 1974 inventory of river segments showed that:

- Pollution exists in 3100 water segments of varying lengths and areas, in the 53 States and Territories reporting.
- About half of the segments are so heavily polluted dischargers located on them will be required to go beyond 1977-level pollution controls to enable water quality standards to be met.
- Based on the State problem assessments now available, over one-third of the segments may be able to meet water quality standards by 1977.

This projection represents a difference between the timetable of the Act (meeting applicable water quality standards by 1977, and meeting aquatic life and swimming water quality standards where attainable by 1983) and the States' own assessment of probable water quality improvement.

State pollution identification.--The States have identified their most severe areas of water pollution. These include both point and nonpoint types of pollution in both rural and urban areas. Table III lists a few examples of these problem areas.

The 1974 assessment, and the listing in Table III, indicate that the variations in character and causes of severe pollution limit the applicability of any single national strategy for water quality improvement. State and Regional shifts in emphasis should be reflected in specific State and Regional strategies and programs.

TABLE III

SEVERE STATE WATER POLLUTION PROBLEMS

Arizona	Lower Colorado River	Salinity
District of Columbia	Potomac River	Fecal coliform & sediment
Florida	Santa Fe River	Malfunctioning sewage sewage treatment plants and septic tanks
Idaho	Upper Snake River	Industrial discharges & agricultural runoff
Indiana	Wabash River	Oil field operations
Kansas	Arkansas River	Agricultural nonpoint runoff
Maine	Major Lakes	Cultural stress inducing eutrophication
Montana	Upper Blackfoot River	Acid Mining drainage
New Mexico	Statewide	Inadequate sewage treatment facilities operations and maintenance
Puerto Rico	Tidal action on most rivers	Pollutant buildings at river mouth

Study of major rivers.--In addition to the inventory of river segments, EPA studied 22 major rivers in detail in 1973. This study showed the following:

- The worst readings and trends are those for nutrients.
- Other pollutants with high levels are phenols (industrial compounds which can taint fish flesh) and suspended solids (which interfere with some aquatic life processes).
- The pollutants receiving the most widespread controls--bacteria and oxygen demand--show general improvement in the last 5 years.

These data point to the emergence of eutrophication as a potential problem in the country. Both the amount and concentration of nutrients rise in wet weather. This signals the future importance of nonpoint source controls on urban runoff and agriculture in correcting eutrophication.

Conclusion.

EPA's water quality data, along with the problems reflected in Table III and numerous variations thereof, underly EPA's two-phase strategy--Phase I emphasizing the institution of known controls, with Phase II directed toward the more difficult and persistant problems.

*U.S. GOVERNMENT PRINTING OFFICE:1975 632-474/1082 1-3